

AMENDMENTS TO THE CLAIMS

Please cancel all pending claims, *i.e.*, claims 1-18, without prejudice or disclaimer of the subject matter recited therein and please add new claims 19-37 as follows. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-18 (Canceled)

19. (new) A magnetron coating system, comprising:

a first coating source;

an auxiliary substrate arranged between the first coating source and an area into which a substrate to be coated is to be received;

a magnetron having a cathode composed of the auxiliary substrate; and

a device structured and arranged to determine an area density of the auxiliary substrate.

20. (new) The magnetron coating system according to claim 19, wherein the auxiliary substrate is formed as a cylinder, and the magnetron comprises a rod cathode magnetron.

21. (new) The magnetron coating system according to claim 19, wherein the first coating source comprises a planar magnetron.

22. (new) The magnetron coating system according to claim 19, wherein the first coating source comprises a shield.

23. (new) The magnetron coating system according to claim 19, wherein the device comprises a detection device structured and arranged to determine x-ray fluorescence.

24. (new) The magnetron coating system according to claim 19, further comprising additional auxiliary substrates, wherein the magnetron comprises additional cathodes composed of the additional auxiliary substrates.

25. (new) A method for depositing thin layers, comprising:
depositing a layer on an auxiliary substrate via a first coating source;
coating a substrate via a magnetron having a cathode composed of the auxiliary substrate;
and
determining an area density of the auxiliary substrate.

26. (new) The method of claim 25, wherein a thickness of the layer deposited on the auxiliary substrate is less than 100 nm.

27. (new) The method of claim 26, wherein the thickness of the layer deposited on the auxiliary substrate is less than 10 nm.

28. (new) The method of claim 25, wherein the layer deposited on the auxiliary substrate comprises a metal layer.

29. (new) The method of claim 28, wherein the metal layer comprises an element having a higher mass number than an average mass number of a material of the auxiliary substrate.

30. (new) The method of claim 25, further comprising:

operating the first coating source as an other magnetron with inert gas; and

operating the magnetron with at least one of the inert gas and reactive gas.

31. (new) The method of claim 30, wherein at least one of the following:

the inert gas comprises argon, and

the reactive gas comprises at least one of nitrogen, oxygen, and methane.

32. (new) The method of claim 25, wherein the area density of the auxiliary substrate is determined after the coating of the substrate.

33. (new) The method of claim 25, wherein the determining of the area density of the auxiliary substrate comprises x-ray fluorescence.

34. (new) The method of claim 25, further comprising operating the magnetron with DC voltage or pulsed DC voltage.

35. (new) The method of claim 25, wherein the cathode comprises several cathodes and the method further comprises operating the magnetron with the several cathodes with a frequency of approximately 10 kHz to approximately 100 kHz.

36. (new) The method of claim 25, wherein the coating of the substrate comprises depositing an other layer on the substrate.

37. (new) The method of claim 36, wherein the other layer comprises titanium dioxide.